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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/700,254	11/03/2003	Larry Lee Schumacher	5854-00100	3682

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DAFFER MCDANIEL LLP
P.O. BOX 684908
AUSTIN, TX 78768

EXAMINER	
TECKLU, ISAAC TUKU	
ART UNIT	**PAPER NUMBER**
2192	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/08/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/700,254	SCHUMACHER ET AL.	
	Examiner	Art Unit	
	Isaac T. Tecklu	2192	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *06/22/05*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This action is responsive to the application filed on 11/03/2003.

2. Claims 1-20 have been examined.

Oath/Declaration

3. The office acknowledges receipt of a properly signed oath/declaration filed on 11/03/2003.

Specification

4. The disclosure is objected to because it contains an embedded hyperlink http://www.ait.nrl.navy.mil/pgmt/Pnpaper.pdf on page 6, line 14. Applicant is required to delete the embedded hyperlink and/or other form of browser-executable code. See MPEP § 608.01.

5. The use of the trademarks, such as JAVA, has been noted in this application (page 12, line 12). It should be capitalized wherever it appears and be accompanied by the generic terminology.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

Claim Objections

6. Claim 11 recites acronym "XML", such acronym should be spelled out once in the claims as its intended meaning and utility will be changed over time. Appropriate correction is required.

Claim Rejections - 35 USC § 101

1. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

2. Claims 1-15 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claim 1 is non-statutory as being "A system" without being supported by hardware such as tangible computer storage or execution engine, which would enable one skill in the art to construe that the apparatus is built from tangible product to carry out any functionality being conveyed from the claim. Thus, the system is computer listings *per se*, i.e., the descriptions or expressions of the programs, are not physical "things." They are neither computer components nor statutory processes, as they are not "acts" being performed. Such claimed system does not define any structural and functional interrelationships between the system and other claimed elements of a computer which permit the system's functionality to be realized. In contrast, a claimed computer- readable medium encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer which permit the computer program's functionality to be realized, and is thus statutory. See Lowry, 32 F.3d at 1583-84, 32 USPQ2d at 1035. Accordingly, it is important to distinguish claims that define descriptive material per se from claims that define statutory inventions.

Claims 2-15 are rejected for failing to cure the deficiencies of the above rejected non-statutory claim 1 above. See MPEP 2106.01(I)

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for

patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-14 and 16-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Swamy et al. (US 6,874,141 B1).

As per claim 1, Swamy discloses a system of managing data comprising:

a plurality of map components, each map component having one or more ports for accepting data (e.g. FIG. 15, element 532, -534 and 546 and related text) and for producing data (e.g. mapping of 380 of FIG. 13 and related text) and each map component encapsulating a particular dataflow pattern (col. 7:5-15 "... encapsulates a graphical user interface representation of a tree ...");

compiler tools for organizing and linking said map components using said ports into a dataflow application (col. 9:50-60 "... compiler link option..." and e.g. FIG. 1 and related text); and

an executor for creating and managing data communication among map components in the dataflow application (e.g. FIG. 5A, step 158 and related text) and executing the dataflow application with data supplied to the system (col. 12:51-60 "... execute leaf function ... generates code using the hierarchy match ...").

As per claim 2, Swamy discloses the system of claim 1, the compiler including tools for visually creating composite components comprising other map components (e.g. FIG. 11 and related text) and tools for visually assembling map components into a dataflow application (col. 13:20-29 "... visual mapping representations ...").

As per claim 3, Swamy discloses the system of claim 1, at least one map component having properties determining map component design behavior (col. 12:30-39 "... stack is used to determine context ...").

As per claim 4, Swamy discloses the system of claim 1, at least one map component having properties that affect map component execution behavior (e.g. mapping of 380 of FIG. 13 and related text).

As per claim 5, Swamy discloses the system of claim 1, at least one of the map components comprising a composite component encapsulating a particular dataflow pattern using other map components as subcomponents (col. 7:5-15 "... encapsulates a graphical user interface representation of a tree ...").

As per claim 6, Swamy discloses the system of claim 1, at least one of the map components comprising a scalar map component to process a specific data transformation (e.g. mapping of 380 of FIG. 13 and related text).

As per claim 7, Swamy discloses the system of claim 1, at least one of said ports linked to transfer specific types of data (col. 19:50-60 "... transfer information between ...").

As per claim 8, Swamy discloses the system of claim 1, at least one of said ports initially defined as a generic port for processing generic types of data, said generic port being later synthesized to transfer a specific sub-type of data (col. 20:30-40 "... through a serial port ...").

As per claim 9, Swamy discloses the system of claim 1, at least one of said ports being composite, comprising a plurality of hierarchical ports (e.g. FIG. 15 and related text).

As per claim 10, Swamy discloses the system of claim 1, at least one of said ports supporting multi-valued null data tokens (e.g. FIG. 15, element 546 and related text).

As per claim 11, Swamy discloses the system of claim 1, at least one of said map components being encoded as an encrypted XML document (e.g. FIG. 2, SOURCE XML DOCUMENT and related text).

As per claim 12, Swamy discloses the system of claim 1, at least one of said map components being composite comprising a number of hierarchical dataflow graphs (e.g. FIG. 14 and related text).

As per claim 13, Swamy discloses the system of claim 1, the compiler operating to remove design time links between map components to produce a flat dataflow graph containing a plurality of map processes for execution (e.g. FIG. 1 and FIG. 10 (freeing the node dependencies memory) and related text).

As per claim 14, Swamy discloses the system of claim 1, the executor operating to assign a thread to each map process for parallel execution (e.g. FIG. 1 and related text).

As per claim 16, Swamy discloses a method of transforming data in parallel processing environments (col. 2:58-3:7 describing the overall schema mapping) where map components are assembled visually into an integrated dataflow application by linking the map components (col. 13:20-29 "... visual mapping representations ...") and the integrated dataflow application is executed in parallel by recognizing the linked processes within the map components and allocating a thread to each process (col. 12:51-60 "... execute leaf function ... generates code using the hierarchy match ...").

As per claim 17, Swamy discloses the method of claim 16, wherein a plurality of map processes read data tokens from input ports and write data tokens to output ports (e.g. FIG. 13 and 15 and related text).

As per claim 18, Swamy discloses a method of managing data comprising: accessing a library of map components at least some of said map components constituting a specific data transformation and having input and output ports (e.g. FIG. 11 multiple inputs/outputs to the mapping function); assembling a dataflow application using map components from said library linked together using said ports; and executing the assembled dataflow application with source data (col. 12:51-60 "... execute leaf function ... generates code using the hierarchy match ...").

As per claim 19, Swamy discloses the method of claim 18, including imposing properties on the map components during assembly constraining the assemblage of the dataflow application (col. 12:51-60 "... execute leaf function ... generates code using the hierarchy match ...").

As per claim 20, Swamy discloses the method of claim 18, the map components including polymorphic ports which declare status as input and output ports during assemblage (e.g. FIG. 11 multiple inputs/outputs to the mapping function and FIG. 15 and related text).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Swamy et al (US 6,874,141 B1) in view of Yamanaka (US 6,993,753 B2).

As per claim 15, Swamy does not explicitly disclose the system of claim 1, the compiler tools operating to perform syntactic and semantic analysis, type inference and validation. However, Yamanaka discloses a compiler of Fig. 1, which performs syntactic and semantic analysis of a source program. Therefore it would have been obvious to one skilled in the art at the time the invention was made to perform semantic and syntactic analysis to process the verification process faster than in conventional method and to verify the hierarchical structure (map) as once suggested by Yamanaka (col. 1:45-55).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Isaac T. Tecklu whose telephone number is (571) 272-7957. The examiner can normally be reached on M-TH 9:300A - 8:00P.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Q. Dam can be reached on (571) 272-3695. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Isaac Tecklu
Art Unit 2192